

VOLVO POWERTRAIN CORPORATION

EXECUTIVE ORDER A-242-0035-3 New On-Road Heavy-Duty Engines

Pursuant to the authority vested in the Air Resources Board (ARB) by Health and Safety Code (HSC) Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order (EO) G-02-003; and

Pursuant to the December 15, 1998 Settlement Agreement (SA) between ARB and the manufacturer, and any modifications thereof to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That the engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR ENGINE FAMILY		ENGINE FUEL TYPE STANDARDS INTENDED SERVICE CLASS SIZE (CNG/LNG=compressed/liquefled natural gas; & TEST (L/M/H HDD=light/medium/heavy heavy-d (liter) LPG=liquefled petroleum gas) PROCEDURE [HD] diesel; UB=urban bus; HDO=HD or							
2003	3VTXH12.150S	12.1	Diesel	Diesel	HHDD				
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS		ENGINE MODELS / CODES (rated power in horsepower, hp)							
DDI, TC, CAC, EGR, ECM		VE D12D435 / I (435 hp), VE D12D425 / II (425 hp), VE D12D395 / III (395 hp), VE D12D365 / IV (365 hp), VE D12D465 / V (465 hp)							
GVWR=gros	s vehicle weight rating T	 WC/OC=three-	way/oxidizing catalyst WU (prefix) =warm-up cat.	O2Smovunen sened	HO2S-heated O2S TBleshandle had to				

GVWR=gross vehicle weight rating TWC/OC=three-way/oxidizing catalyst WU (prefix) =warm-up cat. O2S=oxygen sensor HO2S=heated O2S TBl=throttle body fuel injection MFI=multi port fuel injection SFI=sequentialMFI DDI/IDI=direct/indirect/deset legication TC/SC=turbo/super charger CAC=charge air cooler EGR=exhaust gas recirculation AIR=secondary air injection PAIR=pulsed AIR SPL=smoke puff limiter ECM/PCM=engine /powertrain control module EM=engine modification 2 (prefix)=parallel (2) (suffix)=in series HC=hydrocarbon NMHC=non-methane HC NOx=oxides of nitrogen CO=carbon monoxide PM=particulate matter

The following are the exhaust emission standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT), in g/bhp-hr, for this engine family under the "Federal Test Procedure" (FTP) (Title 13, California Code of Regulations, (13 CCR) Section 1956.1 (urban bus) or 1956.8 (other than urban bus)), and under the "Eurô III Test Procedure" (EURO) in the Settlement Agreement, including EURO's "Not-to-Exceed" standard(s). "Diesel" CO certification compliance may have been demonstrated pursuant to Code of Federal Regulations, Title 40, Part 86, Subpart A, Section 86.091-23(c)(2)(i) in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR Section 1956.1 or 1956.8 are in parentheses.)

			EURO'	S NOT-TO	EXCEE	STD	NMHC:	0.625	NOx: *		NMHC+NC	x: 3.125	PM	: 0.125
* = not	нс		NMHC		NOx		NMHC+NOx		СО		PM		нсно	
applicable	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
(DIRECT) STD		*	0.5	0.5	*	•	2.5	2.5	15.5	15.5	0.10	0.10	*	•
AVERAGE STD	*	*	*	•	•	*	*	•	*		+	•	•	
FEL	•	*	*			•	*		•	•	+			+ •
CERT	*	•	0.1	0.1	*	* .	2.4	2.4	0.7	0.6	0.08	0.04	*	•

BE IT FURTHER RESOLVED: That certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Sections 1965 (emission control labels), and 2035 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: That the listed engine models are conditionally certified subject to the following conditions: (1) The SA is in effect; (2) The manufacturer is in compliance with all applicable certification requirements of the SA and any modifications thereof; (3) This EO is void with respect to any engine within this family determined to have a defeat device as that term is defined in the test procedures and SA. Any engine produced under the voided EO remains subject to stipulated penalties under the SA. Such penalties would begin to accrue upon manufacture of the first engine under this EO; (4) This EO expires at midnight on March 31, 2003; (5) Production of any engine within this family under this EO is acceptance of all conditions in this EO; and (6) ARB reserves the right to disapprove certification of this family, or any families using the same or similar auxiliary emission control device (AECD) strategies as this family is employing, based on all available information.

Engines certified under this Executive Order shall conform to all applicable California emission regulations and all requirements under the SA and any modifications thereof.

This Executive Order hereby supersedes Executive Order A-242-0035-2 dated February 13, 2003. The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this 27th day of February 2003.

Allen Lyons, Chief Mobile Source Operations Division